Re-Thinking Pre-College Math Summer 2011 Institute:

Required Team Assignments

**Prepare, submit electronically (on Friday), and share brief summary in closing session your specific plans for your RPM project work in 2011-2012. Given your project progress to date (as described in your end-of-year report), summarize how you will be continuing and extending the work in the coming year as we come to the official end of the grant:**

* **Describe the major activities/interventions being implemented in 2011-12, including what’s being done, who’s involved, the expected outcomes, and what evidence will you gather to assess the effectiveness of the specific interventions—in particular, describe any plans aimed at supporting shifts in individual teaching practices, strengthening focused collaborative inquiry among groups of faculty, and building a stronger department culture to support reflective teaching**

1. **Incorporation of material from Ruth Parker’s patterns course into Math 93. Terry Souhrada and Deb Olson will incorporate material from the course patterns I in to our new Algebra I course. They will receive one course release this fall to be in each other’s classes using classroom exchange protocol to help implement this material. The desired outcome is that this will increase student understanding and retention in these courses. The evidence gathered will be results of a student survey, class success rates and sample student work which will be used as a basis for faculty inquiry**

**In the winter quarter Terry Souhrada will team teach a Math 93 with Pete Wildman incorporating the patterns material. The desired outcome will be to continue to increase student understanding and retention and to introduce and train another faculty member to this method of instruction. The evidence gathered will be results of a student survey, class success rates and sample student work. This class is also a Project DEgree course and additional support will be provided with a Wednesday Supplemental Instruction session.**

**In both the fall and the winter we will encourage other faculty members to participate in classroom exchanges with these courses to examine student work. One desired outcome is that more faculty will wish to incorporate this or other innovative pedagogical strategies in future sections of our developmental math courses.**

1. **Revision of Math 90: Pre Algebra course to meet the needs of students in Project Degree. Bev Vredevelt will be teaching a section of math 90 to students in our project Degree cohort. These students have placed in developmental math, reading and writing. We plan to incorporate a Wednesday supplemental instruction section into this course. The instructors for this supplemental instruction section will be Bev Vredevelt , Pete Wildman and Terry Souhrada on a rotating basis. We also will have student tutorial support from experienced Project DEgree students. Another innovation is the incorporation of demonstrated successful student attribute work developed by one of our faculty at the Institute for Extended Learning. The desired outcome is increased success in this course and improvement in both the attitudes and student attributes of these students. In addition will allow us to share a promising practice and smooth the transition for ABE/GED students to college level work. This will be measured through student surveys, examination of student work and student success rates in this course.**
2. **New FIGs with FIG Therapy – Currently we have course FIGS centered around the three courses that are in our developmental math redesign (math 93, 94 and 98) the initial focus of these FIGS was course content and training for faculty that were teaching the course for the first time. As faculty progressed through the sequence the focus of these FIGS changed from content to instructional practice specifically through the analysis of student work on common tasks. Some new FIGS are planned for this year including:**
   1. **We still plan to have a group meeting that will provide support to instructors who are teaching a course in the new developmental sequence for the first time (we have renamed this group NINSSG (New Instructor New Sequence Support Group). The purpose of this group will be to have experienced instructors provide insight on content and instructional changes to the course to faculty who have not taught a particular course in the new sequence. The facilitator for this group will be an faculty member who has taught the new course and who is experienced in implementing a more intentional protocol. The anticipated outcome is greater understanding and buy in from faculty for the changes in the developmental sequence and improved instructional practices of those faculty participating. The evidence will be faculty feedback.**
   2. **An additional FIG will be planned around the subject of student attribute work in our courses. The specific research question is still being refined and we will be asking for “FIG Therapy” from an RPM expert to help us get the process of inquiry started (developing a protocol and refining a research question). Our desired outcome is a greater understanding of our goals of student attribute work and the development of an effective tool to measure these attributes. The evidence gathered will be examples of student work using our current class preparation techniques and students work from new and refined class preparation techniques. This will also be a rich area for faculty exchange as we develop an improved student attribute tool and this will provide another informal method of evidence**
   3. **The department has found it beneficial to focus FIG work around examination of common student tasks. We plan to continue this as a focus in one of our FIGS. The desired outcomes are a greater understanding of student understanding/misconceptions in key learning goals , the investigation of effective practice centered around these learning goals and the creation of a faculty culture that critically examines teaching practice. The evidence gathered will be student work on specific tasks and faculty feedback on changes in their instructional practice.**
3. **We will conduct a thorough evaluation of the changes in our developmental math curriculum with a focus on how these changes have affected the development of student attributes and attitudes towards mathematics. This last summer Mickey Davis developed a student survey and piloted a process for conducting student focus groups and interviews. A full scale evaluation will be conducted this year involving these instruments. We plan to use this evaluation to get a clearer picture of the changes in student attitudes and behaviors and to inform ways we can improve our practice. The data from the evaluation will provide material for faculty inquiry on ways we can specifically improve our practice.**
4. **The implementation of discussion forums. We are planning bi weekly discussion forum meetings. These meetings will either be used as training for faculty and students on specific topics in our new courses (technology use for example) or discussion of concerns/changes in content. The desired outcome of these meetings is increased comfort of faculty and students for using specific technologies or techniques in the new course sequence and to provide a forum for discussion of changes.**
5. **The completion of the development of our instructors’ guide and test bank for our new courses. The instructors’ guide will provide faculty new to the sequence a document which gives guidelines on content changes and best instructional practices for our new courses. The test bank provides faculty with a resource for nonstandard problems that specific to our courses and are not typically found in professionally published materials. The desired outcome of these resources is improved consistency in our instruction and the inclusion of non standard test items in course assessments. We will gather evidence on how these resources are used continually throughout the year.**

* **What will you be doing this year to increase the likelihood that the work done through the grant will be sustained beyond the immediate grant funding?**

**We feel that our department has made great strides in understanding the faculty inquiry process. This year we hope to expand our understanding by focusing on the cyclical nature of inquiry as a method to affect upon practice. This grant has helped us change the culture of our department. Previously decisions were based primarily upon faculty preference and perception. Now we are more likely to seek and consider evidence of student understanding and learning and to use this evidence in our decision making process.**

**We would like to have data focused on the specific courses we have changed that investigates the impact this has had on students, faculty and other courses. In particular we will collect data on the affect our changes have had (or not had) on entry level college courses. Also we would like to gather evidence through the collection of comments from students involved in the developmental sequence. This can be done through the focus group/interview process described above. We also hope to use this practice to capture perceptions of our science faculty on our new curriculum. We also need to collect data on how faculty teaching practice has been affected through the work on this grant. This data will help influence our department culture towards using a more evidence based decision making process**